

**TAO NAN SCHOOL**  
**PRIMARY FOUR SCIENCE MID-YEAR EXAMINATION – 2005**

Name : \_\_\_\_\_ ( )

Date : 12 May 2005

Class : P4 \_\_\_\_\_

Time : 7.55 a.m – 9.25 am

Parent's signature: \_\_\_\_\_

Marks: 100

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**Section A (30 x 2 marks)**

**For each of the questions from 1 to 30, four options are given. One of the four options is the correct answer. Select the correct answer and shade its corresponding oval (1, 2, 3 or 4) on the Optical Answer Sheet.**

1) Which of the following is **true** of liquids?

- (1) It has no mass
- (2) It cannot be compressed
- (3) It has no definite volume
- (4) It cannot take the shape of its container

2) Which of the following is **not** matter?

- (1) A table
- (2) A shadow
- (3) Water in a cup
- (4) Air in a balloon

3) When ice changes to water, the process is called \_\_\_\_\_.

- (1) melting
- (2) freezing
- (3) precipitation
- (4) condensation

4) When water vapour condenses, \_\_\_\_\_.

- (1) it gains heat
- (2) it loses heat
- (3) its smell changes
- (4) its colour changes

5) Which of the following is **not true** of all matter?

- (1) It has mass
- (2) It is invisible
- (3) It has volume
- (4) It occupies space

6) Which of the following is true. Air has \_\_\_\_\_.

- (1) definite shape, definite volume
- (2) no definite volume, definite shape
- (3) definite volume, no definite shape
- (4) no definite shape, no definite volume

7) Which of the following is / are matter?

- |          |         |
|----------|---------|
| A Oxygen | B Heat  |
| C Water  | D Sound |

- (1) A and B only
- (2) A and C only
- (3) B and D only
- (4) C and D only

8) Aini tested some properties of solids, liquids and gases. She recorded her results in a table shown below.

Property	P	Q	R
take up some space	✓	✓	✓
flow easily	✓	✓	X
can form droplets	X	✓	X
some are invisible	✓	X	X

**Key :**

✓ The property is found in the matter.

X The property cannot be found in the matter.

Unfortunately, Aini had forgotten to write the headings **SOLIDS**, **LIQUIDS**, and **GASES** at the top of the columns P, Q, R. Which of the following is the correct set of headings?

	P	Q	R
(1)	SOLIDS	LIQUIDS	GASES
(2)	GASES	LIQUIDS	SOLIDS
(3)	LIQUIDS	GASES	SOLIDS
(4)	GASES	SOLIDS	LIQUIDS

9) Which of the following about a piece of stone are **true**?

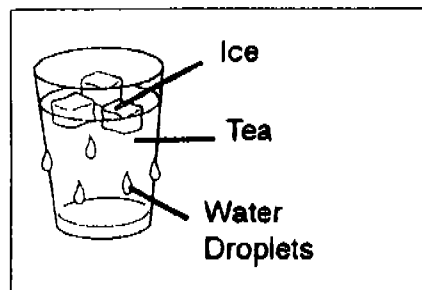
- A It occupies space
- B It cannot be compressed
- C It has no definite shape
- D It has no definite volume

- (1) A and B only
- (2) A and D only
- (3) B and C only
- (4) C and D only

10) Which of the following would help us to **reduce** our usage of water?

- (1) Using a hose to wash a car
- (2) Brushing our teeth with the tap running
- (3) Taking a bath instead of a shower
- (4) Collecting water from washing rice to water plants

11) Jamie left a glass of iced tea on a table as shown in the diagram below. After five minutes, she noticed that some water droplets had formed on the outside of the glass. The water droplets were colourless unlike the colour of the iced tea in the glass. Where did the water droplets come from?



- (1) The tea in the glass
- (2) The iced water in the glass
- (3) The water vapour in the air
- (4) The ice in the glass

12) Which of the following processes is matched **correctly** with its change in state?

	Process	Change of State
(1)	Melting	Gas to Liquid
(2)	Freezing	Gas to Solid
(3)	Evaporation	Liquid to Gas
(4)	Condensation	Solid to Liquid

13) Which of the following are causes of water pollution?

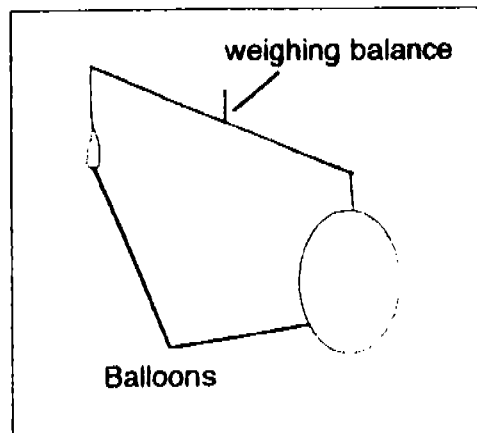
- A Oil leaks from ships in the sea
- B Factories discharging wastes in a river
- C Soil from construction sites washed into a lake
- D Farmers spraying insecticides near an open stream

- (1) A and D only
- (2) B and C only
- (3) A, B and C only
- (4) A, B, C and D

14) Clouds are made up of \_\_\_\_\_.

- (1) snow
- (2) steam
- (3) water vapour
- (4) water droplets

15) Study the diagram below.



The experiment above shows that air \_\_\_\_\_.

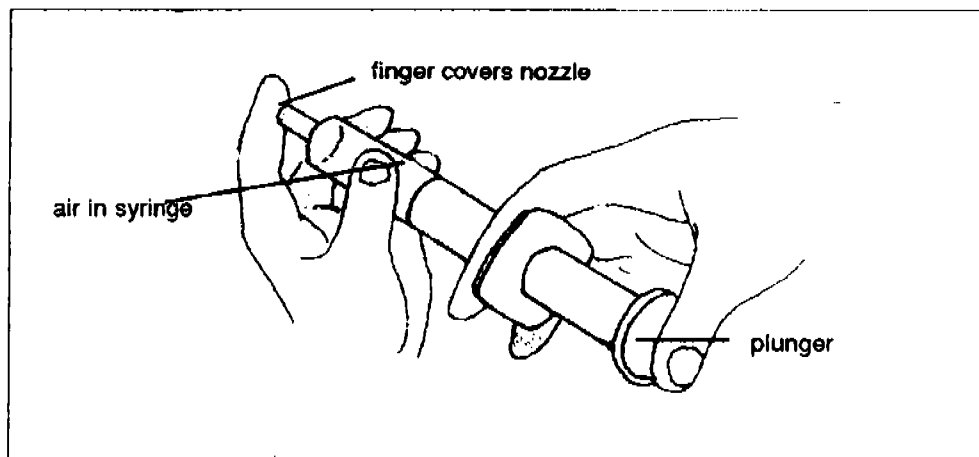
- (1) has mass
- (2) has shape
- (3) can be compressed
- (4) has no definite volume

16) Mass can be measured using the following units :

- A Kilograms
- B Grams
- C Millilitres
- D Cubic metres

- (1) A and B only
- (2) A and D only
- (3) B and C only
- (4) C and D only

17) Look at the diagram below



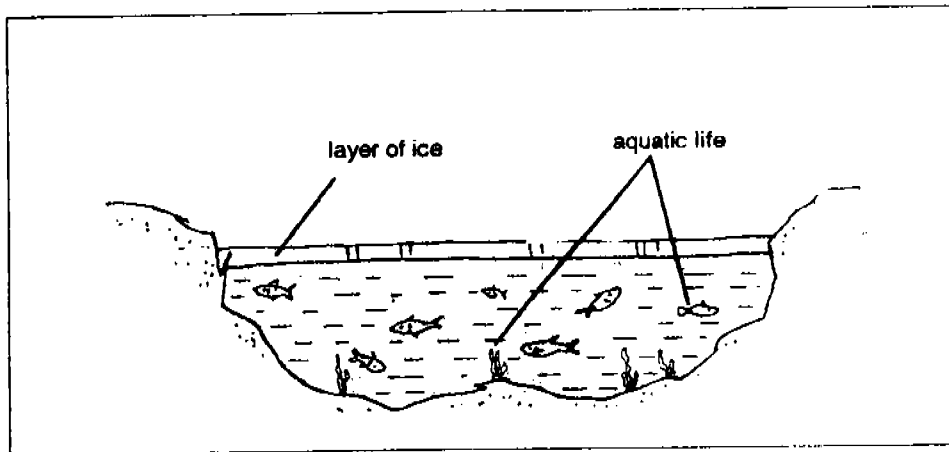
We are able to push the plunger because \_\_\_\_\_.

- (1) the nozzle has space
- (2) we have strong hands
- (3) air can be compressed
- (4) air can occupy small spaces

18) James classified some items under different types of matter. Study the groups below carefully. Which group of items is incorrectly classified?

- (1) ice, iron and wood
- (2) mercury, water and ice
- (3) copper, sand and glass
- (4) oxygen, air and helium

19) What happens to the animal and plant life when the pond freezes during winter?

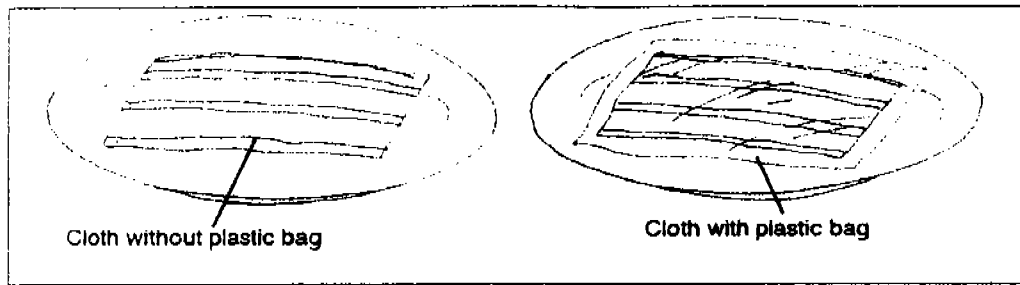


- (1) They freeze to death
- (2) They hibernate and remain frozen
- (3) They survive in the water under the layer of ice
- (4) They migrate to countries with warmer climates

20) Why do snails hide in their shells during a hot day?

- (1) The snails are afraid of sunlight.
- (2) The hot weather melts the snails.
- (3) The sun's rays causes skin cancer in the snails.
- (4) The snails need to stay moist and prevent excessive water loss.

21) Two similar pieces of cloths are wet with the same amount of water. One piece of the cloth is spread on a plate while the other is placed in a plastic bag. Both of them are kept in a room with all other conditions the same. Predict what will happen?



- (1) Both of them will not dry at all.
- (2) Both of them will dry at the same time
- (3) The cloth spread on the plate will dry first
- (4) The cloth placed in the plastic bag will dry first

22) 4 groups of pupils carried out an experiment to find out the effect of temperature on the rate of evaporation of water. The results are shown below:

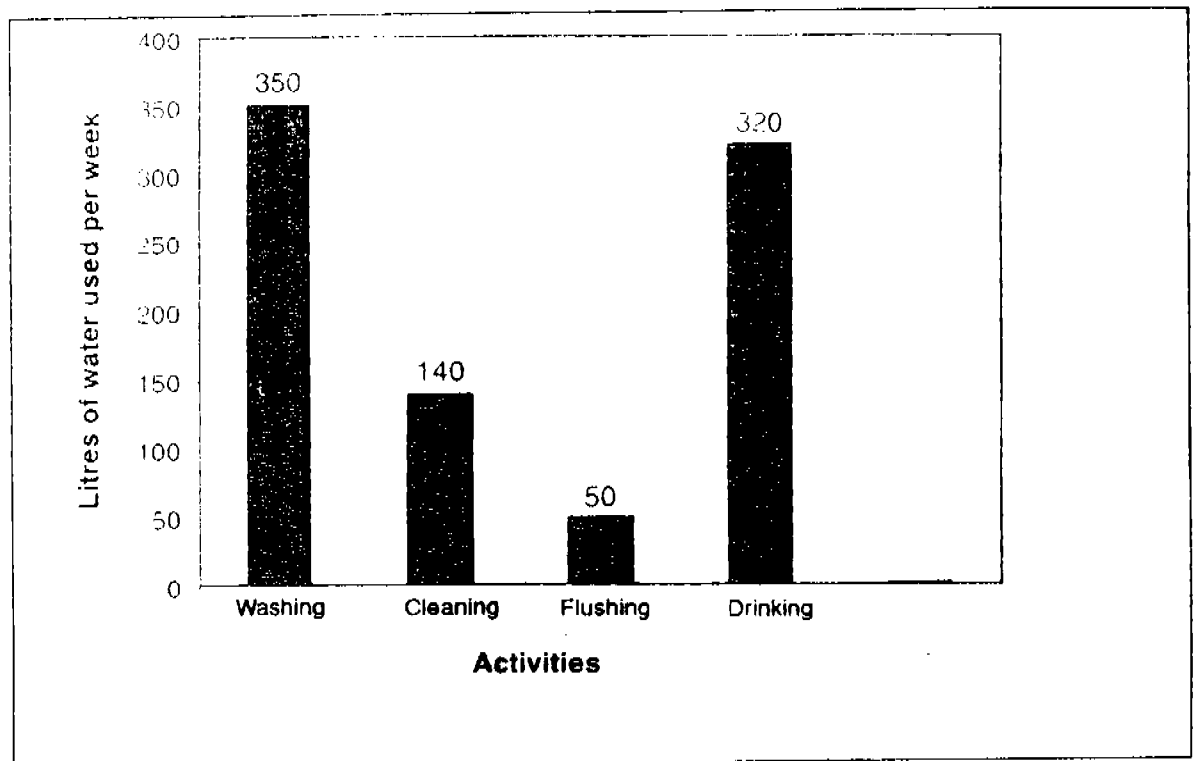
Set of results	Volume of water	Surface area of container	Temperature	Speed of wind
A	150ml	70 cm <sup>2</sup>	80 °C	10 km/h
B	150ml	70 cm <sup>2</sup>	55 °C	10 km/h
C	150ml	40 cm <sup>2</sup>	80 °C	25 km/h
D	150ml	40 cm <sup>2</sup>	55 °C	20 km/h

Which 2 sets of results can be used to make a **FAIR** comparison?

- (1) A and B only
- (2) A and D only
- (3) B and C only
- (4) C and D only



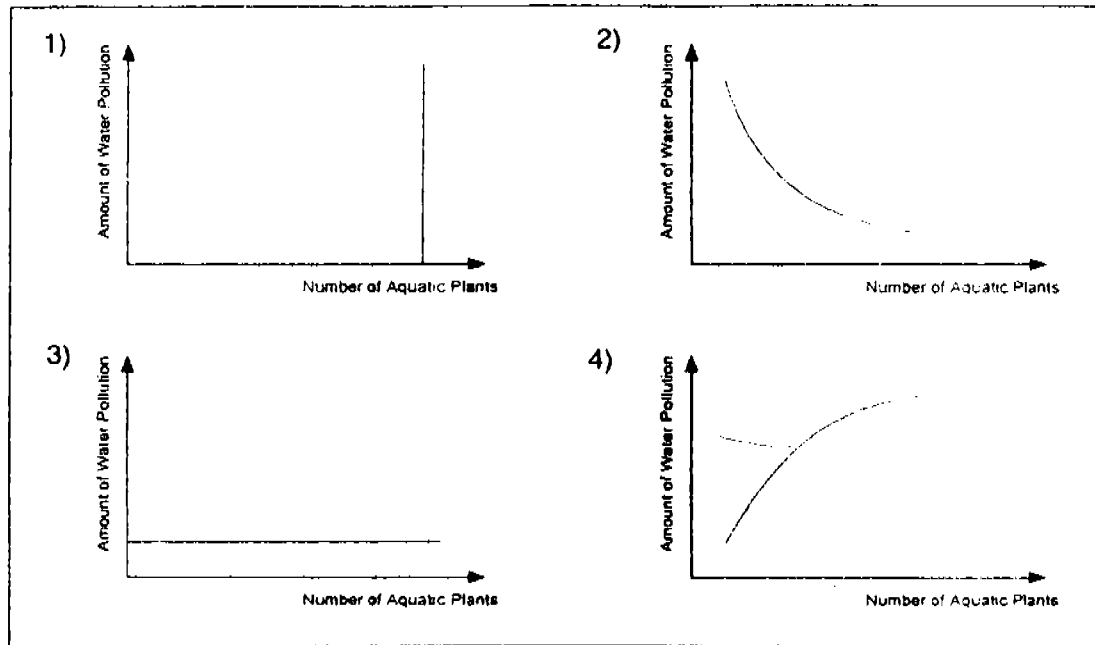
23) The graph below shows the amount of water used for various activities in a flat.



Which activity used the least water?

- (1) Washing
- (2) Cleaning
- (3) Flushing
- (4) Drinking

24) Study the graphs below carefully. Which graph shows how polluted water (muddy water) affects the number of aquatic plants?



25) Condensation takes place when \_\_\_\_\_.

- A pure water is boiled
- B clouds are formed in the sky
- C water from a puddle evaporates
- D dew are formed on leaves in the morning

- (1) A and B only
- (2) A and D only
- (3) B and D only
- (4) C and D only

26) Which of the following shows correctly water in its three states?

	<b>Gas</b>	<b>Liquid</b>	<b>Solid</b>
(1)	Steam	Frost	Hail
(2)	Water Vapour	Cloud	Ice
(3)	Water Vapour	Cloud	Dew
(4)	Steam	Cloud	Water vapour

27) Which of the following is true of a water rationing exercise?

- (1) Water is polluted
- (2) Water is readily available
- (3) Water supply to our homes increases
- (4) Water supply to our homes is disrupted

28) A laboratory thermometer is dipped into a beaker containing water at 30° C. It is then removed and placed in a beaker of water at 80° C. What will happen to the liquid in the thermometer?

- (1) The liquid remains at 30° C
- (2) The liquid falls to 50° C
- (3) The liquid rises slowly to 80° C
- (4) The liquid rises slowly to 110° C

29) David went for a walk in the park early in the morning. He noticed little drops of water on the blades of grass. It did not rain the night before. Where did the drops of water come from?

- (1) The grass transpired, producing the drops of water
- (2) Water vapour in the air condensed on the grass forming water droplets
- (3) The grass gave out the drops of water during respiration
- (4) Water was taken in by the roots and given out by the leaves of the grass.

30) For the water cycle to occur, there must be \_\_\_\_\_

A light.

B wind.

C changes in state of water.

D heat energy from the sun.

(1) A and B only

(2) A and D only

(3) B and C only

(4) C and D only

Name : \_\_\_\_\_ ( )

Class : P4\_\_\_\_\_

**Section B (40 marks)**

**Fill in the blanks with the correct answers.**

31) Classify the following into matter and non-matter. (2 marks)

Oxygen, Music, Light, Alcohol

Matter	Non - Matter

32) Give two reasons why magnetism is not matter. (2 marks)

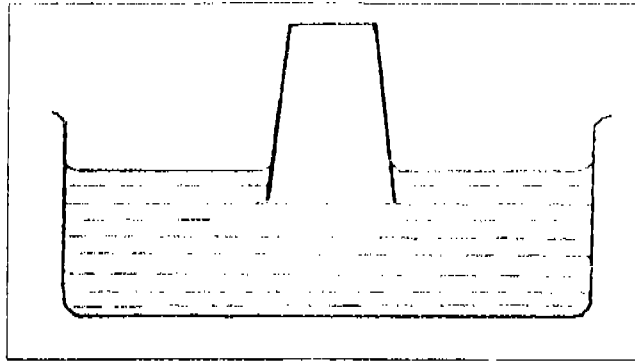
a) \_\_\_\_\_

\_\_\_\_\_

b) \_\_\_\_\_

\_\_\_\_\_

33) Daud inverts a plastic cup and pushes it into a water trough. He notices that the water does not enter the cup.

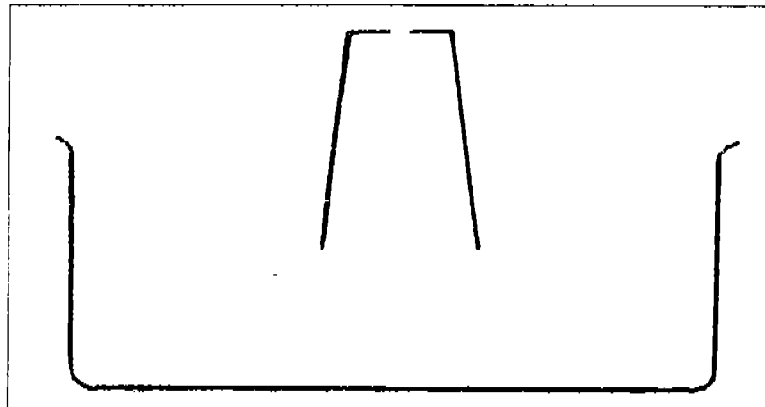


a) What can Daud conclude from the experiment? (1 mark)

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b) He then proceeds to pierce a hole at the bottom of the cup. Draw the water level in the cup and the water level in the water trough in the diagram below. (1 mark)



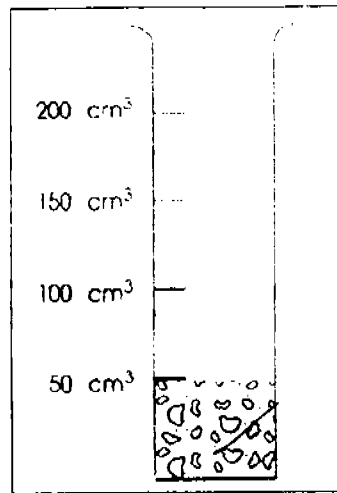
c) Explain the reason for the water level in b). (1 mark)

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34) A measuring cylinder was packed with sand and pebbles up to  $50 \text{ cm}^3$ .  $50 \text{ cm}^3$  of water was poured in the measuring cylinder.

a) Draw the water level. (1 mark)



b) Explain the reason for the water level in a). (2 marks)

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35) Solids have definite shapes. Explain why plasticine is classified as a solid although its shape can be changed. (2 marks)

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36) Solids have a fixed shape, fixed volume and cannot be compressed.

a) A sponge is a solid. Why is it that it can be compressed? (1 mark)

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b) Give another example of such a solid. (1 mark)

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37) Seawater evaporates to form water vapour. However the rain water that falls does not taste salty. Why? (2 marks)

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38) Samantha spilled some coffee on her living room floor. Two hours later there were some stains left on the floor. How were the stains formed? (2 marks)

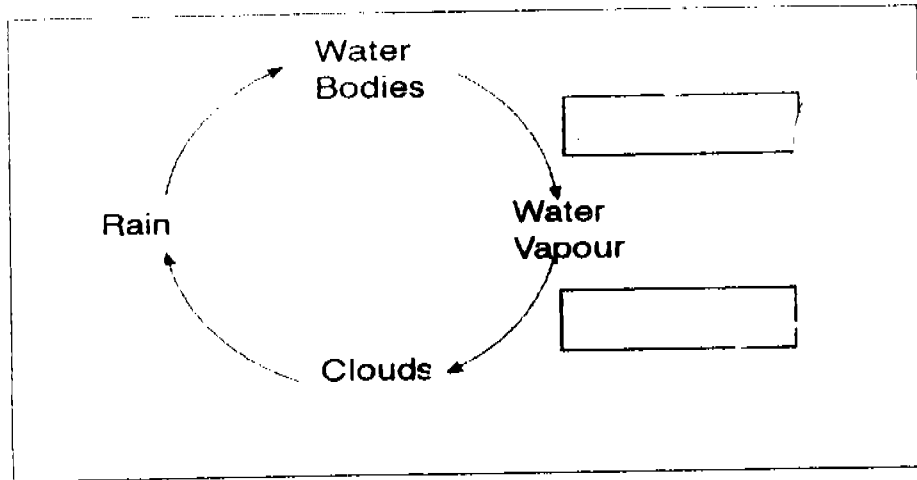
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39)

a) Fill in the blanks with the processes of the water cycle. (2 marks)

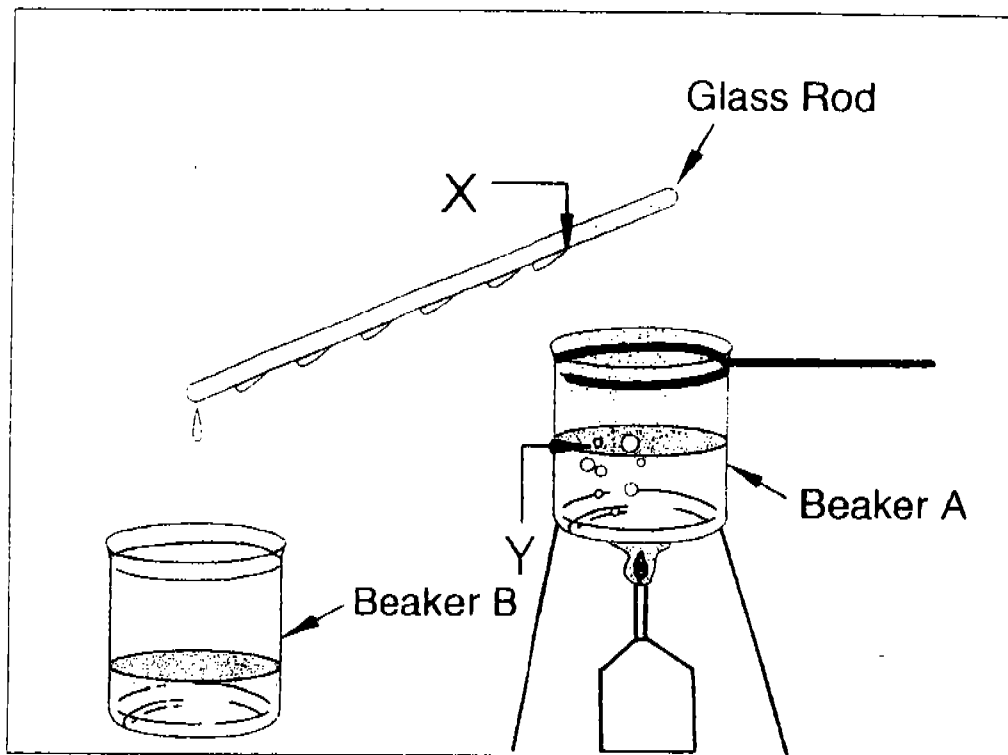


b) Why is the sun important to the water cycle? (1 mark)

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40) Study the setup below.



a) What change in state is taking place at point X ? (1 mark)

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b) What change in state is taking place at point Y ? (1 mark)

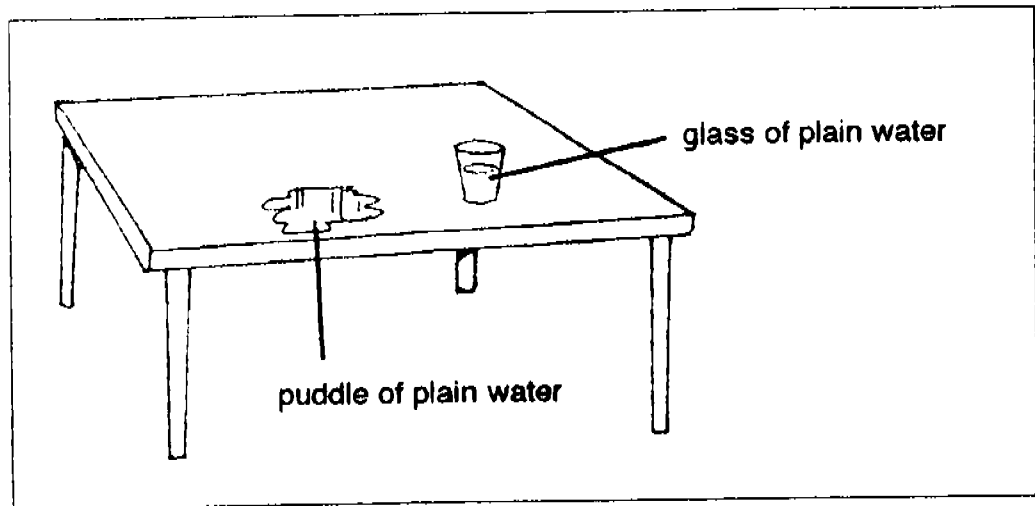
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c) There was 300ml of water in beaker A at first. After all the water was boiled away, only 280ml of water was collected in beaker B? Explain in your own words why this is so. (2 marks)

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41) Study the picture below.



a) Which one will dry faster ? (1 mark)

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b) Why? (1 mark)

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42) List two ways the government obtains water for Singapore.  
(2 marks)

a) \_\_\_\_\_

\_\_\_\_\_

b) \_\_\_\_\_

\_\_\_\_\_

43) A hawkler dumped all the food remains and waste water in a nearby drain. Was he correct in doing so? Why? (2 marks)

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44)

a) Based on the picture below, list two possible causes of pollution.



i. \_\_\_\_\_ (1 mark)

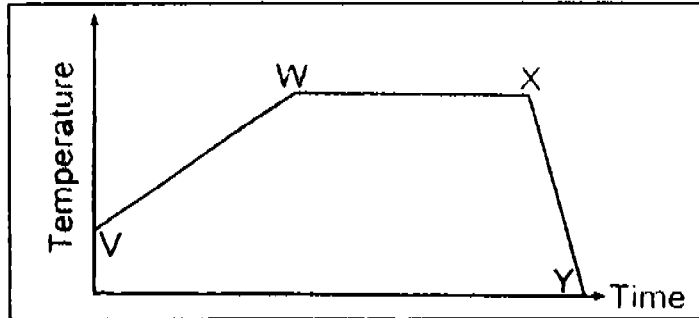
ii. \_\_\_\_\_ (1 mark)

b) How does the pollution shown affects aquatic life? (2 marks)

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45) The graph below shows the temperature changes of pure water in a beaker.



a) What is the highest possible temperature of the pure water at W? (1 mark)

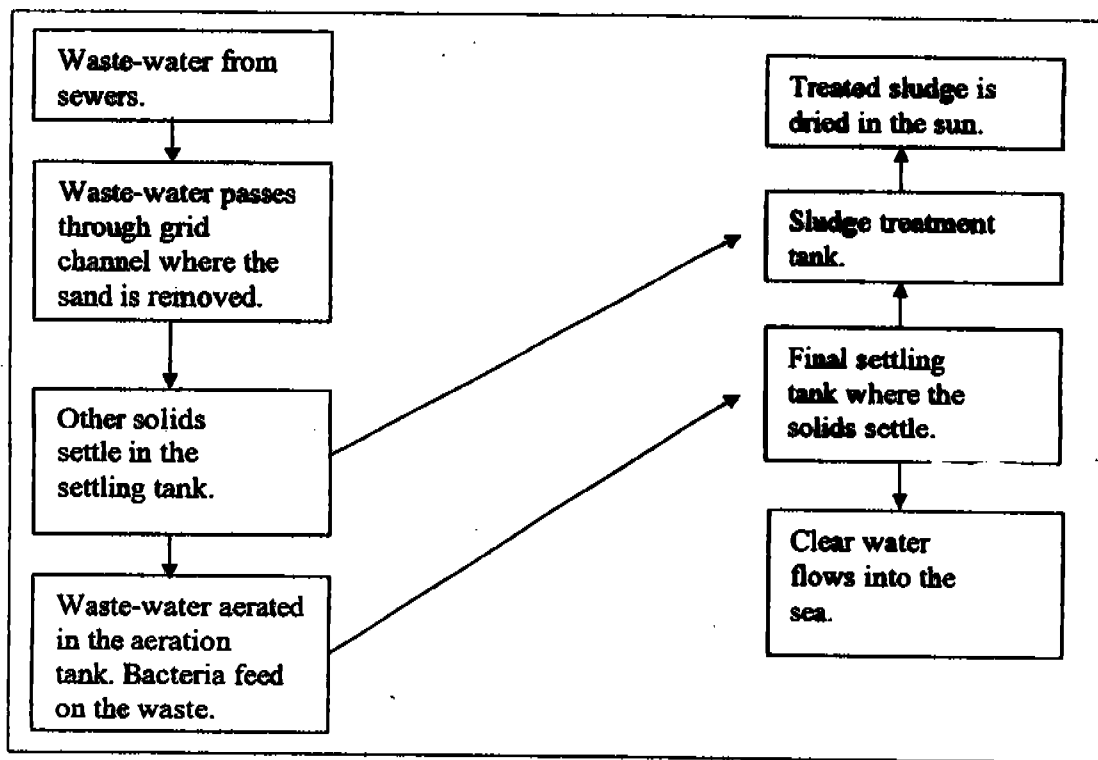
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b) What do you think happened from X to Y? (1 marks)

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46) The chart below shows the stages of treatment of waste water at a sewage treatment plant.



a) What is removed from the waste-water when it reaches the sewage treatment plant? (1 mark)

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b) Where are the solids from the waste-water channelled to after they have settled? (1 mark)

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c) Why is it important for waste water from sewers to go through this process before being released into the sea? (1 mark)

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-End of Paper-

TAO NAN SCHOOL  
MID YEAR EXAMINATION - 2005  
PRIMARY FOUR  
SCIENCE

01. 2	11. 3	21. (3)
02. 2	12. 3	22. 1
03. 1	13. 4	23. 3
04. 2	14. 4	24. 2
05. 2	15. 1	25. 3
06. 4	16. (1)	26. 2
07. 2	17. 3	27. 4
08. 2	18. (4)	28. 3
09. 1	19. 3	29. 2
10. 4	20. 4	30. 4

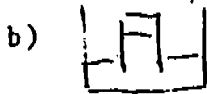
31) Oxygen                      Music

Alcohol                      Light

32) a) It does not occupy space.

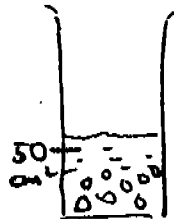
b) It does not have mass.

33) a) Air occupies space



c) The hole at the bottom of the cup allows air to escape.

34) a)



b) There is space in between the sand for water to seep through.

35) Plasticine changes its shape only when we do something to it. Therefore, plasticine is classied as a solid.

36) a) It has hole that allows air and water to go in.

b) Cloth

37) Only water evaporates to form water vapour. The salt is left behind. When the water vapour condenses, it becomes water and falls as rain.

38) The stains were remaints of the coffee powder which was left behind when the water in the coffee evaporates away to form water vapour.

39) a) Evaporation

b) It provides heat energy for evaporation.

b) Condensation

- 40) a) Gaseous state to liquid state.  
b) Liquid state to gaseous state.  
c) Some of the steam flows in another direction, not touching to cool surface of the glass rod.
- 41) a) The puddle of plain water.  
b) It has a bigger area of exposed surface.
- 42) a) Reclaim water from the sea (desalination)  
b) Build reservoirs.
- 43) No. He will pollute the water, making the environment dirty and smelly.
- 44) a) i) dumping  
ii) Oil spills.  
b) It prevents sunlight from reaching them and they will eventually die.
- 45) a) 100°  
b) I think the pure water is put into the freezer.
- 46) a) Sand is removed.  
b) Sludge treatment tank  
c) It will pollute the sea if waste is not removed.